

WHAT IS CLAIMED IS:

1. An inspection or review system, comprising:
 - 5 an optical component configured to project light onto a specimen during inspection or review of the specimen, wherein the specimen is a wafer or a reticle; and
 - 10 a liquid disposed between the optical component and the specimen during the inspection or the review, wherein the liquid is in contact with a surface of the optical component and a surface of the specimen, and wherein the liquid does not permanently alter properties of the optical component or properties of the specimen.
- 15 2. The system of claim 1, wherein the presence of the liquid between the optical component and the specimen increases resolution of the inspection or review system.
3. The system of claim 1, wherein the liquid has an index of refraction that is approximately equal to an index of refraction of the optical component.
- 20 4. The system of claim 1, wherein the liquid has an index of refraction that is different than an index of refraction of an upper layer formed on the specimen.
5. The system of claim 1, wherein the liquid occupies approximately an entire
- 25 volume between the surfaces of the optical component and the specimen.
6. The system of claim 1, wherein the liquid occupies spaces between features on the specimen.
- 30 7. The system of claim 1, wherein air is not present between the surfaces of the optical component and the specimen.

8. The system of claim 1, wherein the liquid does not scatter the light.
9. The system of claim 1, wherein the liquid comprises water.
- 5 10. The system of claim 1, wherein a substantial portion of the liquid comprises water.
11. The system of claim 1, wherein the liquid comprises a wetting agent.
- 10 12. The system of claim 1, wherein the liquid can be removed from the surface of the specimen after inspection such that a residue is not present on the specimen after the inspection.
13. The system of claim 1, wherein the inspection or review comprises bright field
15 inspection or review, dark field inspection or review, or dark field and bright field inspection or review.
14. The system of claim 1, wherein the system is configured as a confocal optical system.
- 20 15. The system of claim 1, wherein the system is configured to scan the specimen while the liquid is disposed between the surfaces of the optical component and the specimen.
- 25 16. The system of claim 1, wherein the system is configured to generate flow of the liquid between the surfaces of the optical component and the specimen during the inspection or review.

17. An inspection or review system, comprising:

an inspection or review subsystem configured to project light through an optical component, a liquid, and onto a specimen, wherein the liquid contacts the optical component and the specimen, and wherein the specimen is a wafer or a reticle; and

a processing subsystem configured to remove the liquid from the specimen after inspection or review.

18. The system of claim 17, wherein the processing subsystem is further configured to clean the specimen after the inspection or review.

19. The system of claim 17, wherein the processing subsystem is further configured to remove substantially all of the liquid from the specimen.

20. The system of claim 17, further comprising a handler configured to transfer the specimen from the inspection or review subsystem to the processing subsystem.